

What is claimed is:

1. A multi-frequency communications device, comprising:
  - a primary resonator, the primary resonator for enabling a frequency at which the communications device operates; and
  - 5 a parasitic resonator element, wherein when excited the parasitic resonator element couples to the primary resonator to alter the frequency at which the communications device operates.
2. The communications device of claim 1, wherein the primary resonator comprises a low frequency antenna.
- 10 3. The communications device of claim 2, wherein the low frequency is within the 300 to 500 MHz frequency band.
4. The communications device of claim 2, wherein the primary resonator comprises a coil antenna.
5. The communications device of claim 1, wherein the primary resonator radiates a dipole type radiation pattern.
- 15 6. The communications device of claim 1, wherein the parasitic resonator radiates a quadruple type radiation pattern.
7. The communications device of claim 1, wherein the parasitic resonator element comprises a spiral geometry.
- 20 8. The communications device of claim 1, wherein the parasitic resonator element comprises a capacitively coupled dipole antenna.
9. The communications device of claim 1, wherein the communications device comprises a housing, and wherein the parasitic resonator element is disposed within or on the housing.
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10. The communications device of claim 2, wherein the communications device operates at two or more low frequencies.

11. The communications device of claim 1, wherein the primary resonator comprises a stub antenna.

5 12. The communications device of claim 1, wherein the communications device comprises a phone.

13. The communications device of claim 1, wherein the communications device comprises a PDA.

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14. A phone for operating at a frequency, comprising:  
a plurality of resonator elements, wherein when one resonator element is excited the one resonator element couples with another resonator element to effectuate the operating frequency at which  
15 the phone operates.

15. The phone of claim 14, wherein only one of the plurality of resonator elements radiates a dipole radiation pattern.

16. The phone of claim 15, wherein at least one other of the plurality of resonator elements radiates a quadruple radiation pattern.

20 17. The phone of claim 14, wherein at least one of the plurality of resonator elements comprises a parasitic resonator.

18. The phone of claim 17, wherein the phone comprises a multi frequency low band phone, wherein the phone comprises a housing, and wherein at least one of the plurality of resonator  
25 elements is coupled to the housing.

19. The phone of claim 18, wherein the phone comprises only one stub antenna.

20. The phone of claim 14, wherein the frequency is in a range below 1GHz.

21. A resonator for use with a primary antenna of a phone,  
5 comprising:

a parasitic element, wherein when excited the parasitic element couples to the primary antenna to change an operating characteristic of the primary antenna.

22. The resonator of claim 21, wherein when excited  
10 the parasitic element exhibits a quadruple type of radiation pattern.

23. The resonator of claim 21, wherein the primary antenna comprises a stub type antenna.

15 24. A resonator for use with a primary antenna of a phone, comprising: parasitic coupling means for parasitically coupling to the primary antenna so as to change an operating characteristic of the primary antenna.

20 25. A method of using a parasitic resonator with a communications device, comprising the steps of:

providing a primary resonator that exhibits a radiation pattern when excited;

25 providing a parasitic resonator that comprises a radiation pattern when excited;

positioning the parasitic resonator such that it electronically couples to the primary resonator so as to change an operating characteristic of the primary resonator.

5 26. The method of claim 25, wherein the communications device comprises a phone.

27. The method of claim 25, wherein the communications device comprises a PDA type device.

10 28. The method of claim 25, wherein the primary resonator comprises a stub type antenna, and wherein the communications device comprises only one stub type antenna.

29. The method of claim 25, wherein the operating characteristic comprises an operating frequency that is less than 1 GHz.